



## PATENT ABSTRACTS OF JAPAN

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(71) Applicant: MATSUSHITA ELECTRIC WORKS LTD  
 (72) Inventor: KIMURA HIDEYOSHI  
 SHIOHAMA EIJI  
 SUGIMOTO MASARU  
 HASHIMOTO TAKUMA  
 SUZUKI TOSHIYUKI  
 NAKAGAWA KAZUYA  
 KOBAYASHI MITSURU  
 HASHIZUME JIRO

## (54) LIGHT SOURCE AND ITS MANUFACTURING METHOD

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## (57) Abstract:

**PROBLEM TO BE SOLVED:** To provide a light source and its manufacturing method which improves luminous efficiency to increase the optical power and prolong the life and raises the mechanical strength.

**SOLUTION:** The light source 1 comprises a board 3 having a thermal conductivity, an insulation member 4 bonded to one surface of the board 3, through-holes 6 passing through parts of the insulation member 4 facing the board 3, LED chips 2 mounted on exposed portions of the board 3 through the through-holes 6, expansions 4a inwardly projecting from the opening edges of the through-holes 6 at the board 3, a wiring pattern 8 provided on the insulation member 4 which electrically insulates the pattern 8 from the board 3, bonding wires 9 which electrically connect extending portions of the pattern 8 onto the expansions 4a to electrodes of the LED chips 2, and a translucent seal resin 10 filled in the through-holes 6 to seal the whole of the LEDs 2 and the bonding wires 9.

